


[Web](#) [Images](#) [Video](#) [News](#) [Maps](#) [more »](#)





 Ad  
Sc  
Sc

**Scholar** **All articles - Recent articles** Results 1 - 10 of about 1,400 for **ECA complex condition ever**
**All Results**
[N Paton](#)
[L Liu](#)
[G Cugola](#)
[C Pu](#)
[W Tang](#)
[\[BOOK\] Active Rules in Database Systems - all 3 versions »](#)

NW Paton - 1998 - books.google.com

... Multiple Rules 74 4.4 Conclusion 78 4.5 Acknowledgments 79 4.6 References 79

 5Monitoring **Complex Rule Conditions** 81 ... 2 **ECA rules** 16.3. ... 2 **Condition Model** 18.3.

...

[Cited by 195](#) - [Related Articles](#) - [Web Search](#) - [Library Search](#)
[On the Semantics of Complex Events in Active Database Management Systems - all 12 versions »](#)

D Zimmer, R Unland - Proceedings of the 15th International Conference on Data ..., 1999 - doi.ieeecomputersociety.org

 ... of rules, the so-called **ECA-Rules (Event ... If the condition is satisfied, the specified ac ... To react to more sophisticated situations, complex events were introduced ...**
[Cited by 62](#) - [Related Articles](#) - [Web Search](#)
[Continual queries for Internet scale event-driven information delivery - all 16 versions »](#)

L Liu, C Pu, W Tang - Knowledge and Data Engineering, IEEE Transactions on, 1999 - ieeexplore.ieee.org

 ... actions with respect to the data set over which the trigger **condition** and query ... This feature simplifies many **complex issues** in **ECA Rules**, especially ...

[Cited by 283](#) - [Related Articles](#) - [Web Search](#)
[\[PS\] Framboise {an approach to construct active database mechanisms - all 5 versions »](#)

H Fritschi, S Gatzui, KR Dittrich - University of Zurich, 1997 - historical.ncstrl.org

 ... **condition** or action objects. ... **ECA-Systems**. ... work, however, is recognized as a **complex**

task[9] 5 . Thus, we aim at the realization of a comprehensive ...

[Cited by 19](#) - [Related Articles](#) - [View as HTML](#) - [Web Search](#)
[Investigating Termination in Active Database Systems with Expressive Rule Languages - all 9 versions »](#)

A Vaduva, S Gatzui, KR Dittrich - Rules in Database Systems: Third International Workshop, ..., 1997 - books.google.com

 ... rule operations, and on the other hand **complex conditions** and actions ... R be the set of defined **ECA-rules** ... an **event** is signalled 1. After **event** signalling, control ...

[Cited by 30](#) - [Related Articles](#) - [Web Search](#)
[Distributed events in active database systems: Letting the genie out of the bottle - all 5 versions »](#)

A Koschel, PC Lockemann - Data &amp; Knowledge Engineering, 1998 - Elsevier

 ... Global temporal ordering of distributed **complex events**, if needed ... Processing Unit: In C2offein **ECA rules** are ... Corresponding **condition** parts are defined on the ...

[Cited by 40](#) - [Related Articles](#) - [Web Search](#)
[An event-condition-action language for XML - all 10 versions »](#)

J Bailey, A Poulouvassilis, PT Wood - Proceedings of the 11th international conference on World ..., 2002 - portal.acm.org

... of triggering and activation relation- ships between **ECA** rules is more **complex** in an ... relations with potential **events** or with the bodies of rule **conditions**. ...

[Cited by 72](#) - [Related Articles](#) - [Web Search](#)

**ECA rule-based support for workflows - all 3 versions »**

A Goh, YK Koh, DS Domazet - Artificial Intelligence in Engineering, 2001 - Elsevier

... R2: **Event** Draft\_Design\_completed (design) **Condition** repair\_ authorised Action ... and the processes are large and **complex**. ... for workflows based on **ECA** rules [14, 15 ...

[Cited by 40](#) - [Related Articles](#) - [Web Search](#)

**Moving Active Functionality from Centralized to Open Distributed Heterogeneous Environments - all 6 versions »**

M Cilia, C Bornhovd, AP Buchmann - ... Information Systems: 9th International Conference, CoopIS ..., 2001 - books.google.com

... Based EGA-Rule Processing We realize the **ECA**-rule processing ... combination of its basic

services, ie **complex event** detection, **condition** evaluation, and ...

[Cited by 34](#) - [Related Articles](#) - [Web Search](#)

**DEVICE: Compiling production rules into event-driven rules using complex events - all 6 versions »**

N Bassiliades, I Vlahavas - Information and Software Technology, 1997 - Elsevier

... Oriented **Database** (OODB) system that supports **ECA** rules only. The integration is based on the compilation of the rule **condition** into a **complex event** network ...

[Cited by 15](#) - [Related Articles](#) - [Web Search](#)

Google

Result Page:    [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#)    [Next](#)

ECA complex condition event databi   

[Google Home](#) - [About Google](#) - [About Google Scholar](#)

©2008 Google



Login: Register

Home Browse Search My Settings Alerts Help

**Quick Search** Title, abstract, keywords  Author  e.g.  
 search tips Journal/book title  Volume  Issue  Page

## Artificial Intelligence in Engineering

Volume 12, Issues 1-2, January-April 1998, Pages 1-14

**Abstract**

**Abstract + References**

**PDF (1533 K)**

**View thumbnail images | View full size images**

Add to my Quick Links Cited By E-mail Article Save as Citation Alert Export Citation Citation Feed

doi:10.1016/S0954-1810(96)00033-7 Cite or Link Using DOI  
 Copyright © 1997 Published by Elsevier Science Ltd.

# An intelligent database for engineering applications

**Yue Dong and A. Goh**

Division of Software Systems, School of Applied Science, Nanyang Technological University, Nanyang Avenue, Singapore 639798

Received 30 November 1995; revised 10 May 1996; accepted 23 August 1996. ;

Available online 18 June 1998.

## Abstract

Many engineering applications need to response to unpredictable events in a timely manner. Active database systems provide an event-driven rule processing capability to meet this requirement. In this paper, we present an intelligent database which integrates an object-oriented database (OODB) with an expert system, CLIPS. The paper describes the design and implementation of the rule manager of this intelligent database. In the rule manager, event-condition-action (ECA) rules are represented as first class objects of the OODB. A rule definition language (RDL) is developed to manipulate ECA rules in a declarative way. A graphical user interface supplies a template to interactively define, delete, update and check ECA rules. Detection of time events, method events, absolute events and composite events is supported by the rule manager. The CLIPS inference engine is used to control condition evaluation and action execution. An ECA rule is triggered. Finally, a typical workflow application is used to illustrate the system.

**Author Keywords:** object-oriented database; active database; expert systems; rules

## References

1. U. Dayal, B. Blaustein, A. Buchmann *et al.*, The HiPac Project: Combining Active Databases and Timing Constraints. *ACM SIGMOD Records* 17 1 (March 1988), pp. 51–70.
2. G. Kappel and S. Vieweg, Database requirements for CIM applications. *Journal of Integrated Manufacturing*

## Related Articles in ScienceDirect

- \* Implementing ECA rules in an active database  
*Knowledge-Based Systems*
- \* Composite event support in an active database  
*Computers & Industrial Engineering*
- \* DEVICE: Compiling production rules into event-driven ru...  
*Information and Software Technology*
- \* Processing production rules in DEVICE, an active knowle...  
*Data & Knowledge Engineering*

mapping Active  
ECA rules in an objec...  
*Information and Software Technology*  
 ▶ View More Related Articles

Add to my Quick Links

Request Permission

View Reference

Cited By (5)


[Web](#) [Images](#) [Video](#) [News](#) [Maps](#) [more »](#)




[Ad](#)  
[Sc](#)  
[Sc](#)
**Scholar** [All articles](#) - [Recent articles](#) Results 1 - 10 of about 254 for **sql ECA complex condition attribute**
**All Results**

 Did you mean: [sql \*\*ECO\*\*complex condition attribute object database](#)
[J Widom](#)
[S Ceri](#)
[L Liu](#)
[F Casati](#)
[C Türker](#)
[Semantic integrity support in \*\*SQL\*\*: 1999 and commercial \(\*\*object\*\*-\) relational \*\*database\*\* management ... - all 6 versions »](#)

C Türker, M Gertz - The VLDB Journal The International Journal on Very Large ... , 2001 - Springer

 ... used in **database** de- sign, specify **conditions** on the ... and foreign key constraints, up to **complex** features, such ... diverse integrity features proposed in **SQL**:1999. ...

[Cited by 42](#) - [Related Articles](#) - [Web Search](#)
[\[PS\] Architecture of Active \*\*Database\*\* Systems - all 3 versions »](#)

 AP Buchmann - Active Rules in **Database** Systems, 1999 - dvs1.informatik.tu-darmstadt.de  
 ... In the case of **SQL**, **ECA** rules are specied as ... and deactivation of constraints modeled by **ECA** rules. ... evaluation super- uous and revert to (**complex**) event-action ...

[Cited by 10](#) - [Related Articles](#) - [View as HTML](#) - [Web Search](#)
[Investigating Termination in Active \*\*Database\*\* Systems with Expressive Rule Languages - all 9 versions »](#)

 A Vaduva, S Gatzu, KR Dittrich - Rules in **Database** Systems: Third International Workshop, ..., 1997 - books.google.com

 ... be anything from a **database** language (eg, **SQL** for Starburst ... R be the set of defined **ECA**-rules. ... Providing this information for **complex** actions and **conditions** is ...

[Cited by 30](#) - [Related Articles](#) - [Web Search](#)
[\[PS\] Using Active Mechanisms for Global Integrity Maintenance in Federated \*\*Database\*\* Systems - all 4 versions »](#)

C Turker, S Conrad - Kurzfassungen des Workshops "Foderierte Datenbanken", ..., 1996 - wwwiti.cs.uni-magdeburg.de

 ... In order to formulate **complex conditions** across several CDBSs, an ... When a **SQL**-operation

 (eg an update) is sent ... concerns the derivation of local **ECA**-rules from ...

[Cited by 6](#) - [Related Articles](#) - [View as HTML](#) - [Web Search](#)
[\[PDF\] Managing \*\*complex\*\* taxonomic data in an \*\*object\*\*-oriented \*\*database\*\* - all 3 versions »](#)

C Raguenaud - 2002 - soc.napier.ac.uk

 ... especially **complex** and ... 18: **Attribute** ... constraint **condition**..... ...

[Cited by 7](#) - [Related Articles](#) - [View as HTML](#) - [Web Search](#) - [Library Search](#)
[Active \*\*database\*\* support for STEP/EXPRESS models - all 2 versions »](#)

Y DONG, CFY CHEE, Y HE, A GOH - Journal of Intelligent Manufacturing, 1997 - Springer

 ... rules as **complex objects** of four classes. ... The **ECA** rule is eventually constructed and @red in CLIPS. ... CJ and Darwen, H. (1993) A Guide to the **SQL** Standard, 3rd ...

[Cited by 6](#) - [Related Articles](#) - [Web Search](#)
[\[book\] Constraints and Triggers in an \*\*Object\*\* Oriented Geo-\*\*database\*\* Kernel -](#)

[all 5 versions »](#)

H Ditt, Westfalen) Universität (Münster - 1997 - Univ

... Que- ries can be formulated in the **SQL-like object-oriented** ... The definition of triggers is more **complex**. In general, a trigger is defined in an **ECA-style** as: on ...[Cited by 10](#) - [Related Articles](#) - [Web Search](#) - [Library Search](#)[\[PDF\] Semantic Integrity Support in SQL-99 and Commercial \(Object-\) Relational Database Management Systems - all 4 versions »](#)

C Turker, M Gertz - Computer Science Technical Report, University of California, ..., 2000 - cs.ucdavis.edu

... used in the **database** design, specify **conditions** on the ... the former are also used in **SQL-99** as ... Using these extensions, **complex** datatypes can be constructed for a ...[Cited by 5](#) - [Related Articles](#) - [View as HTML](#) - [Web Search](#)[\[PDF\] Designing databases using the activity paradigm - all 2 versions »](#)

Y Amghar, M Meziane - Third International Workshop of the Moscow ACM SIGMOD ..., 1996 - cdserv4.inria.fr

... rules, which can be expressed by **ECA** (event - con ... So this concept allows us to enforce **complex** business rules ... that groups logically related PL/SQL types, **objects** ...[Cited by 2](#) - [Related Articles](#) - [View as HTML](#) - [Web Search](#)[Overview of emerging database architectures - all 4 versions »](#)

TCT Du, PM Wolfe - Computers &amp; Industrial Engineering, 1997 - Elsevier

... oriented **database** can be written in **SQL** mode, it is ... in another **object**, an unstructured **complex object** cannot be ... were the definitions of the **attributes** of **ECA**. ...[Cited by 2](#) - [Related Articles](#) - [Web Search](#)Did you mean to search for: [sql \*\*ECOcomplex\*\* condition attribute object database](#)

Goooooooooooooogle ►

Result Page:    [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#)    [Next](#) [Google Home](#) - [About Google](#) - [About Google Scholar](#)

©2008 Google


[Web](#) [Images](#) [Video](#) [News](#) [Maps](#) [more »](#)
  -  
[Ad](#)  
[Sc](#)  
[Sc](#)

## Scholar

 Results 1 - 4 of 4 for [sql ECA "complex condition" attribute object database](#). (0.15 seconds)

### All Results

[L Liu](#)
[C Pu](#)
[W Tang](#)

 Did you mean: [sql \*\*ECOcomplex\*\* condition" attribute object database](#)

Tip: Try removing quotes from your search to get more results.

[Continual queries for Internet scale event-driven information delivery - all 16 versions »](#)

L Liu, C Pu, W Tang - Knowledge and Data Engineering, IEEE Transactions on, 1999 - [ieeexplore.ieee.org](#)

... feature simplifies many complex issues in **ECA** Rules, especially ... This is a user-defined and optional **attribute**. . ... both can be specified in **SQL**-like expressions. ...

[Cited by 283](#) - [Related Articles](#) - [Web Search](#)

[\[BOOK\] Active, Real-Time, and Temporal Database Systems: Second International Workshop, Artdb'97, Como, ...](#)

SF Andler, J Hansson - 1998 - [books.google.com](#)

... Rules can relate to other **objects** and have **attributes**. ... towards modeling composite events using more **complex condition** parts ... A condition in an **ECA** rule is used ...

[Cited by 4](#) - [Related Articles](#) - [Web Search](#) - [Library Search](#)

[\[PDF\] Representing and enforcing e-commerce contracts using occurrences](#)

A Abrahams, J Bacon - Proceedings of the 4th International Conference on ..., 2001 - [cl.cam.ac.uk](#)

... in various opaque languages, such as Java, C, and **SQL**. ... a particular item stored in the **database** may be ... may occur retrospectively based on the **attributes** of the ...

[Cited by 3](#) - [Related Articles](#) - [View as HTML](#) - [Web Search](#)

[\[PDF\] AN EXTENSIBLE APPROACH TO REALIZING EXTENDED TRANSACTION MODELS](#)

E ANWAR - 1996 - [itlab.uta.edu](#)

... We demonstrate how **ECA** (event-condition-action) rules, dened ... **object-oriented database**

system developed at UF, is used for demonstrating our approach ...

[Related Articles](#) - [View as HTML](#) - [Web Search](#) - [Library Search](#)

 Did you mean to search for: [sql \*\*ECOcomplex\*\* condition" attribute object database](#)
 
[Google Home](#) - [About Google](#) - [About Google Scholar](#)